



**SAN DIEGO STATE
UNIVERSITY**

**Department of Civil Construction & Environmental Engineering
CIVE 421: Reinforced Concrete Design**

Catalogue Description: Properties and characteristics of reinforced concrete; design of structural components. Introduction to plastic theory and limit design. (3 credits) Prerequisites: CIVE 321.

Objective: provide the student with a thorough understanding of reinforced concrete element design with an introduction to the structural behavior of reinforced concrete buildings.

Class: 3 hours per week Final Exam: Comprehensive

Instructor: Ziad Bayasi Office: E421J (619) 594-7158
mbayasi@mail.sdsu.edu Office hours: 4 hours per week

Textbook:

Bayasi, M.Z., "Introduction to Reinforced Concrete Design," Linus Publishers, First Edition, 2014.

The following topics will be covered in this class:

Topic

1. Introduction and materials.
2. Strength design method of beams in flexure.
3. Doubly reinforced concrete beams.
4. T-beams.
5. Shear design for beams.
6. First exam.
7. One-way slabs and continuous beams.
8. Bond and development length.
9. Serviceability of beams.
10. Columns.
11. Footings and retaining walls.
12. Second exam.
13. Advanced topics.

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Grading:

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| 1. Quizzes | 25% |
| 2. Exams | 50% |
| 3. Final | 25% |